

Santiago Arellano – CV

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Education

Department of Earth and Space Sciences, Chalmers University of Technology, Sweden

10/2014 – *Doctor of Philosophy*

06/2013 – *Licentiate of Engineering*

Thesis topic: Remote spectroscopic sensing of volcanic gas emissions

Advisor: Bo Galle; Committee: K. Weber, A. Rosén, E. Sturkell, A. Barker, T. Hansteen, and D. Murtagh.

Courses: molecular physics, spectroscopy, electromagnetism, remote sensing, statistics, atmospheric science, philosophy of science, pedagogy, ethics.

Department of Physics, Escuela Politécnica Nacional, Ecuador

09/2005 – *Físico* (M.Sc. in Physics)

Université Grenoble Alpes, CNRS, France

01/2013 – European Research Course on Atmospheres

UNESCO, International Association of Volcanology and Chemistry of the Earth's Interior

2005, 2006, 2008 – International courses on geophysics of volcanoes (Montserrat, Iceland, Costa Rica)

Fullbright, Escuela Politécnica Nacional, Ecuador

2003 to 2005 – Programme on English as a second language

Folkuniversitetet and Lernia, Sweden

2015 to 2017 – Programme on Swedish as a second language

Previous and present employment

Department of Earth and Space Sciences, Chalmers University of Technology, Sweden

04/2017 to present – Researcher

10/2014 to 03/2017 – Post-doctoral researcher

02/2009 to 09/2014 – Doctoral student (on parental leave 06/2011 to 09/2011)

Projects: NOVAC (EU FP6), FIELVOLCAN (FONCICYT-Mexico/EU), Nyiragongo (SIDA-Sweden), FUTUREVOLC (EU FP7), DECADE (Sloan Foundation-USA).

Main responsibilities: big-data analysis; modeling of geophysical processes; atmospheric radiative transfer modeling; instrument development, calibration and installation; fieldwork in volcanic environments; expert-support during volcanic eruption crises; teaching assistance; writing of funding proposals, scientific peer-review.

Instituto Geofísico, Escuela Politécnica Nacional, Ecuador

01/2005 to 01/2009 – Volcanologist

03/2003 to 12/2004 – Technician

Main responsibilities: development, installation and maintenance of geophysical instrumentation; modelling of volcanic processes; volcanological observatory duties during eruptive crises; teaching assistance.

Centro Cultural, Instituto Geográfico Militar, Ecuador

09/2002 to 02/2003 – Popular astronomy assistant

Main responsibilities: writing of popular astronomy articles, revision of National Planetarium' scripts.

Department of Physics, Escuela Politécnica Nacional, Ecuador

03/2002 to 03/2003 – Library assistant

Main responsibilities: organization of department's library archive

Previous teaching and pedagogic experiences

Pedagogic training

- 2021 – Pedagogical Project (5 HEC, Chalmers), Two2Tango (3 HEC, Karolinska Institutet)
- 2020 – Supervising Research Students (3 HEC, Chalmers)
- 2019 – Theoretical Perspectives on Learning (2.5 HEC)
- 2018 – University Teaching & Learning, Diversity and Inclusion for Learning in HE (4.5 HEC, Chalmers)
- 2013 – Teaching in English (3 HEC, Chalmers)
- 2010 – Pedagogy course for doctoral students (3 HEC, Chalmers)

Teaching and supervision experience

- 2020 – Instructor, Telekommunikation (Electrical Engineering Programme, Chalmers)
- 2018 – Supervisor of MSc student Jiazhi Xu (MSc Wireless, Photonics and Space Engineering, Chalmers)
- 2015 to 2019 – Instructor, Experimental Physics: Spectroscopic Methods (MSc Physics and Astronomy, Chalmers)
- 2015, 2021 – Instructor, Fysik 2 (Tekniskt basår, Chalmers, in Swedish)
- 2015 – Instructor, Atmospheric remote sensing (International School of Optics: OptoAndina, Ecuador)
- 2009 to present – Instructor, Remote sensing software and hardware (NOVAC Workshops)
- 2008 – Lecturer, Volcano Geophysics (BSc Geology, Ecuador)
- 2002 – Student service, Development of educational software for high-school level Physics (BSc Physics, Ecuador)

Grants and awards

OceanInsight, USA

- 2021 – *Merit Award* (awarded for developing a new aerosol measurement concept)

Vinnova, Sweden

- 2020 – Co-applicant of project to measure emissions from shipping using drones

UNESCO-IUGG, International Geoscience Programme

- 2020 – Principal investigator of project on capacity building for volcanic gas observations in developing countries

Swedish National Space Agency, Sweden

- 2018 – *Career-support Grant Holder*

FORMAS, Sweden

- 2017 – Co-applicant of project to study radiative transfer in volcanic clouds

Knut and Alice Wallenbergs Stiftelse

- 2019 – *Jubileumsanslag* (convener and presenter at IUGG Centennial, Montréal, Canada)
- 2017 – *Jubileumsanslag* (presenter at 25th Colloquium on High Resolution Molecular Spectroscopy, Helsinki, Finland)

European Geosciences Union, International

- 2016 – *Keynote speaker* (EGU General Assembly, Vienna, Austria)

Göteborg Physics Centre, Sweden

- 2016 – *Invited speaker* (Fysikens dag, Göteborg, Sweden)

Chalmersska forskningsfonden, Chalmers University of Technology, Sweden

- 2015 – *Travel grant* (instructor and presenter at OptoAndina School, Quito, Ecuador)
- 2013 – *Student scholarship* (presenter at American Geophysical Union Fall Meeting, San Francisco, USA)

Institut de Physique du Globe de Paris, France

- 2013 – *IPGP PhD Student Award* and *Invited speaker* at *Congrès des Doctorants*

American Geophysical Union, International

- 2019 – *Invited speaker* (AGU Fall Meeting, San Francisco, USA)
- 2007, 2013 – *Berkner Travel Fellowship*, (session convener/presenter at AGU Fall Meeting, San Francisco, USA)

Friends of Chalmers Foundation, Sweden

- 2011 – *Young Researchers Scholarship* (participant in ERCA Winter School on Atmospheres)

University of Cambridge, England

- 2008 – Admission for PhD studies at St. John's College (declined)

José García-Siñeriz Foundation, Universidad Politécnica de Madrid, Spain

- 2006 – *José García-Siñeriz Award to the Best Undergraduate Thesis Project in Geophysics in Latin America*

Escuela Politécnica Nacional, Ecuador

- 2001 to 2005 – Holder of academic-merit scholarship

Leadership qualifications and positions of trust

International Association of Volcanology and Chemistry of the Earth's Interior

2017 to present – Co-Leader of Commission on the Chemistry of Volcanic Gases (CCVG)

2018 to present – Editor of CCVG Newsletter

2017 – Member of Scientific Committee of 13th CCVG Gas Workshop, Ecuador

Network for Observation of Volcanic and Atmospheric Change, International

2017 to present – Steering Committee's Secretary

Department of Earth and Space Sciences, Chalmers University of Technology, Sweden

2011 – Organizer of Department's internal seminars

Escuela Politécnica Nacional, Ecuador

2018 to present – Member of Editorial Committee, Revista Politécnica

2003 to 2005 – Basic Sciences' Representative to Students Union

Membership in scientific organizations

2013 to present – Swedish Physical Society

2010 to present – European Geosciences Union (EGU)

2009 to present – Gothenburg Centre for Sustainable Development (GMV)/Gothenburg Air and Climate Centre (GAC)

2009 to 2014 – Association for the Advancement of Basic Science in Ecuador (Amarun)

2007 to present – American Geophysical Union (AGU)

2006 to present – International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)

Outreach activities

2018 to present – Editor of newsletter of IAVCEI Commission on the Chemistry of Volcanic Gases

2017 – Organizer of a scientific seminar on atmospheric physics in Ecuador

2016 – Speaker at Fysikens dag (Gothenburg Physics Centre)

2012 to 2016 – Participation in Gothenburg Science Festival

2010 to 2012 – Editor of newsletter of the Amarun organization

2004 to 2009 – Research featured in several media in Ecuador

Field experience

2020 – Wellington, New Zealand

2019 – Manam volcano, Papua New Guinea

2018 – Sabancaya volcano, Peru; Tavurvur, Ulawun and Langila volcanoes, Papua New Guinea

2017 – Etna volcano, Italy; Tungurahua and Cerro Azul (Galápagos) volcanoes, Ecuador

2016 – Tavurvur, Bagana and Ulawun volcanoes, Papua New Guinea

2015 – Turrialba volcano, Costa Rica; Cotopaxi volcano, Ecuador; Bardárbunga volcano, Iceland

2014 – Nevado del Ruiz and Galeras volcanoes, Colombia

2013 – Nyiragongo volcano, Democratic Republic of Congo; Observatoire de Haute-Provence, France

2011 – Mutnovsky, Gorely and Karymsky volcanoes, Kamchatka-Russia

2010 – Santa María and Pacaya volcanoes, Guatemala; Popocatepetl and Volcán de Colima volcanoes, Mexico

2008 – Popocatepetl and Volcán de Colima volcanoes, Mexico; Harestua Solar Observatory, Norway

2007 – Nevado del Ruiz volcano, Colombia

2006 – Masaya volcano, Nicaragua

2005 – Galeras volcano, Colombia; Poás and Arenal volcanoes, Costa Rica

2004 – Soufrière Hills volcano, Montserrat, West Indies

2003 – 2012 Tungurahua, Cotopaxi, El Reventador, Guagua Pichincha volcanoes, Ecuador

Other skills

Languages: Spanish (mother tongue), English (fluent), Swedish (good).

Computing: OS: Windows/LINUX; programming languages: C++, Java; scientific software: Matlab, Python; spectroscopy software: DOASIS, QDOAS, MALT, general purpose: Office, LaTeX, HTML, WordPress.

Fieldwork: Experience on field campaigns under demanding conditions.

Laboratory: Design, construction, calibration, and installation of geophysical instrumentation.

Instruments: UV/VIS/IR spectrometers (FTIR, DOAS, COSPEC, GFC, MultiGAS), high-altitude UAV training.

Peer-review: G3, JGR, Chemical Geology, JVGR, Jámba, Revista Politécnica, etc.

Member of Validation Team for ESA's Sentinel-5 Precursor TROPOMI Mission

Scientific publications

ORCID: <https://orcid.org/0000-0002-0306-3782> ;

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=23993939200>

Google Scholar: <https://scholar.google.com/citations?hl=en&user=wKEWS9oAAAAJ>

Theses

1. **Arellano S.**, Studies of Volcanic Plumes with Remote Spectroscopic Sensing Techniques: DOAS and FTIR measurements on volcanoes of the Network for Observation of Volcanic and Atmospheric Change, Ph.D. thesis, Chalmers University of Technology, Gothenburg, ISBN: 978-91-7597-070-7, 84 pp, 2014 (**IPGP PhD Student Award, France**).
2. **Arellano S.**, Studies of Volcanic Plumes with Spectroscopic Remote Sensing Techniques – DOAS and FTIR observations at Karymsky, Nyiragongo, Popocatepetl and Tungurahua, Lic. Eng. thesis, Chalmers University of Technology, Gothenburg, Tech. Rep. No. 57L, 93 pp, 2013.
3. **Arellano S.**, Estudio e Implementación de un Sistema de Medición Remota Continua de Flujo de Gas SO₂ de Origen Volcánico basado en Espectroscopia Óptica de Absorción Diferencial, M.Sc. thesis in Physics, Escuela Politécnica Nacional, Quito, 315 pp, 2005 (**José García-Siñeriz Foundation Award, Spain**).

Peer-reviewed journal articles

1. Galle, B., **Arellano, S.**, Bobrowski, N., Conde, V., Fischer, T. P., Gerdes, G., Gutmann, A., Hoffmann, T., Itikarai, I., Krejci, T., Liu, E. J., Mulina, K., Nowicki, S., Richardson, T., Rüdiger, J., Wood, K., and Xu, J.: A multi-purpose, multi-rotor drone system for long range and high-altitude volcanic gas plume measurements, *Atmos. Meas. Tech. Discuss.* [preprint], doi:10.5194/amt-2020-452, in review, 2020.
2. **Arellano, S.**, Galle, B., Apaza, F., Avard, G., Barrington, C., Bobrowski, N., Bucarey, C., Burbano, V., Burton, M., Chacón, Z., Chigna, G., Clarito, C. J., Conde, V., Costa, F., De Moor, M., Delgado-Granados, H., Di Muro, A., Fernandez, D., Garzón, G., Gunawan, H., Haerani, N., Hansteen, T. H., Hidalgo, S., Inguaggiato, S., Johansson, M., Kern, C., Kihlman, M., Kowalski, P., Masias, P., Montalvo, F., Möller, J., Platt, U., Rivera, C., Saballos, A., Salerno, G., Taisne, B., Vásconez, F., Velásquez, G., Vita, F., and Yalire, M., Synoptic Analysis of a Decade of Daily Measurements of SO₂ Emission in the Troposphere from Volcanoes of the Global Ground-Based Network for Observation of Volcanic and Atmospheric Change, *Earth Syst. Sci. Data Discuss.* [preprint], doi:10.5194/essd-2020-295, in review, 2020.
3. Peltier, A., Ferrazzini, V., Di Muro A., Kowalski, P., Villeneuve, N., Richter, R., Chevrel, O., Froger, J.L., Hrysiewicz, A., Gouhier, M., Coppola, D., Retailliau, L., Beauducel, F., Gurioli, L., Boissier, P., Brunet, C., Catherine, P., Fontaine, F., Lauret, F., Garavaglia, L., Lebreton, J., Canjamale, K., Desfete, N., Griot, C., Harris, A., **Arellano, S.**, Liuzzo, M., Gurrieri, S., Ramsey, M., Volcano Crisis Management at Piton de la Fournaise (La Réunion) during the COVID-19 Lockdown. *Seismolog. Res. Lett.*, 92 (1): 38–52., 2021, doi:10.1785/0220200212.
4. Liu, E. J., Aiuppa, A., Alan, A., **Arellano, S.**, Bitetto, M., Bobrowski, N., Carn, S., Clarke, R., Corrales, E., de Moor, J. M., Diaz, J. A., Edmonds, M., Fischer, T. P., Freer, J., Fricke, G. M., Galle, B., Gerdes, G., Giudice, G., Gutmann, A., Hayer, C., Itikarai, I., Jones, J., Mason, E., McCormick Kilbride, B. T., Mulina, K., Nowicki, S., Rahilly, K., Richardson, T., Rüdiger, J., Schipper, C. I., Watson, I. M., and Wood, K., Aerial strategies advance volcanic gas measurements at inaccessible, strongly degassing, *Sci Adv* 6 (44), eabb9103, 2020, doi:10.1126/sciadv.abb9103.
5. Thivet, S., Gurioli, L., Di Muro, A., Derrien, A., Ferrazzini, V., Gouhier, M., Coppola, D., Galle, B., **Arellano, S.**, Evidences of plug pressurization enhancing magma fragmentation during the September 2016 basaltic eruption at Piton de la Fournaise (La Réunion Island, France). *Geochem., Geophys., Geosyst.*, 21, e2019GC008611, 2020, doi:10.1029/2019GC008611.
6. Lages, J., Chacón, Z., Burbano, V., Meza, L., **Arellano, S.**, Liuzzo, M., Giudice, G., Aiuppa, A., Bitetto, M., and López, C., Volcanic gas emissions along the Colombian Arc Segment of the Northern Volcanic Zone (CAS-NVZ): Implications for volcano monitoring and volatile budget of the Andean Volcanic Belt. *Geochem., Geophys., Geosyst.*, 20, pp 5057–5081, 2019, doi:10.1029/2019GC008573.

7. Roman, D. C., LaFemina, P. C., Bussard, R., Stephens, K., Wauthier, C., Higgins, M., Feineman, M., **Arellano, S.**, de Moor, M., Avard, G., Martinez, M., Burton, M., Varnam, M., Saballos, A., Ibarra, M., Strauch, W., Tenorio, V., Mechanisms of unrest and eruption at persistently restless volcanoes: Insights from the 2015 eruption of Telica Volcano, Nicaragua. *Geochemistry, Geophysics, Geosystems*, 20, 4162–4183, 2019, doi:10.1029/2019GC008450.
8. Warnach, S., Bobrowski, N., Hidalgo, S., **Arellano, S.**, Sihler, H., Dinger, F., Lübcke, P., Battaglia, J., Steele, A., Galle, B., Platt, U., and Wagner, T., Variation of the BrO/SO₂ Molar Ratio in the Plume of Tungurahua Volcano Between 2007 and 2017 and Its Relationship to Volcanic Activity, *Front. Earth Sci.* 7:132., 2019, doi:10.3389/feart.2019.00132.
9. Dinger, F., Bredemeyer, S., **Arellano, S.**, Bobrowski, N., Platt, U., and Wagner, T., On the link between Earth tides and volcanic degassing, *Solid Earth*, 10, 725–740, 2019, doi:10.5194/se-10-725-2019.
10. Battaglia, J., Hidalgo, S., Bernard, B., Steele, A., **Arellano, S.**, and Acuña, K., Autopsy of an eruptive phase of Tungurahua volcano (Ecuador) through coupling of seismo-acoustic and SO₂ recordings with ash characteristics, *Earth Planet. Sci. Lett.* 511, pp 223-232, 2019, doi:10.1016/j.epsl.2019.01.042.
11. Theys, N., Hedelt, P., De Smedt, I., Lerot, C., Yu, H., Vlietinck, J., Pedergrana, M., **Arellano, S.**, Galle, B., Fernandez, D., Carlito, C., Barrington, C., Taisne, B., Delgado, H., Loyola D., and Van Roozendaal, M., Global monitoring of volcanic SO₂ degassing with unprecedented resolution from TROPOMI onboard Sentinel-5 Precursor. *Sci Rep* 9, 2643, 2019, doi:10.1038/s41598-019-39279-y.
12. Fischer, T.P., **Arellano, S.**, Carn, S., Aiuppa, A., Galle, B., Allard, P., Lopez, T., Shinohara, H., Kelly, P., Werner, C., Cardellini, C., and Chiodini, G., The emissions of CO₂ and other volatiles from the world's subaerial volcanoes. *Sci Rep* 9, 18716, 2019, doi:10.1038/s41598-019-54682-1.
13. Hidalgo, S., Battaglia, J., **Arellano, S.**, Sierra, D., Bernard, B., Parra, R., Kelly, P., Dinger, F., Barrington, C., Samaniego, P., Evolution of the 2015 Cotopaxi Eruption Revealed by Combined Geochemical & Seismic Observations. *Geochem. Geophys. Geosyst.* 2018, doi:10.1029/2018GC007514.
14. Dinger F., Bobrowski N., Warnach S., Bredemeyer S., Hidalgo S., **Arellano S.**, Galle B., Platt U., and Wagner T., Periodicity in the BrO/SO₂ molar ratios in the volcanic gas plume of Cotopaxi and its correlation with the Earth tides during the eruption in 2015, *Solid Earth* 9, 247-266, 2018, doi:10.5194/se-9-247-2018.
15. Aiuppa A., de Moor J., **Arellano S.**, Coppola D., Francofonte V., Galle B., Giudice G., Liuzzo M., Mendoza E., Saballos A., Tamburello G., Battaglia A., Bitetto M., Gurrieri S., Laiolo M., Mastrolia A., Moretti R., Tracking formation of a lava lake from ground and space: Masaya volcano (Nicaragua), 2014–2017. *Geochem. Geophys. Geosyst.*, 19, 496–515, 2018, doi:10.1002/2017GC007227.
16. Pfeffer M., Bergsson B., Barsotti S., Stefánsdóttir G., Galle B., **Arellano S.**, Conde V., Donovan A., Ilyinskaya E., Burton M., Aiuppa A., Whitty R., Simmons I., Arason Þ., Jónasdóttir E., Keller N., Yeo R., Arngrímsson H., Jóhannsson Þ., Butwin M., Askew R., Dumont S., von Löwis S., Ingvarsson Þ., La Spina A., Thomas H., Prata F., Grassa F., Giudice G., Stefánsson A., Marzano F., Montopoli M., Mereu L., Ground-Based Measurements of the 2014–2015 Holuhraun Volcanic Cloud (Iceland). *Geosciences* 2018, 8, 29.
17. **Arellano S.**, Yalire M., Galle B., Bobrowski N., Dingwell A., Johansson M., Norman P., Long-term monitoring of SO₂ quiescent degassing from Nyiragongo's lava lake, *J. African Earth Sc.*, 134, 2017, Pages 866-873, doi:10.1016/j.jafrearsci.2016.07.002.
18. Tulet P., Di Muro A., Colomb A., Denjean C., Duflo V., **Arellano S.**, Foucart B., Brioude J., Sellegri K., Peltier A., Aiuppa A., Barthe C., Bhugwant C., Bielli S., Boissier P., Boudoire G., Bourriane T., Brunet C., Burnet F., Cammas J., Gabarrot F., Galle B., Giudice G., Guadagno C., Jeamblu F., Kowalski P., Leclair de Bellevue J., Marquestaut N., Mékies D., Metzger J., Pianezze J., Portafaix T., Sciare J., Tournigand A., and Villeneuve N., First results of the Piton de la Fournaise STRAP 2015 experiment: multidisciplinary tracking of a volcanic gas and aerosol plume, *Atmos. Chem. Phys.*, 17, 5355-5378, 2017, doi:10.5194/acp-17-5355-2017.
19. Harris A., Villeneuve N., Di Muro A., Ferrazzini V., Peltier A., Coppola D., Favalli M., Bachèlery P., Froger J.-L., Gurioli L., Moune S., Vlastélic I., Galle B., **Arellano S.**, Effusive crisis at Piton de la Fournaise 2014-2015: a review of a multi-national response model, *J. App. Volcanol.* 6:11, 2017, doi:10.1186/s13617-017-0062-9.
20. Simmons, I., Pfeffer M.A., Calder E., Galle B., **Arellano S.**, Coppola D., Barsotti S., Extended SO₂ outgassing from the 2014–2015 Holuhraun lava field, Iceland, *Bull. Volcanol.* 79: 79, 2017, doi:10.1007/s00445-017-1160-6.
21. Bobrowski, N., Giuffrida, G.B., **Arellano, S.**, Yalire, M., Liotta, M., Brusca, S., Calabrese, S., Scaglione, S., Rüdiger, J., Castro, J., Galle, B., and Tedesco, D., Plume composition and volatile flux of Nyamulagira volcano, Democratic Republic of Congo, during birth and evolution of the lava lake, 2014–2015, *Bull Volcanol* 79, 90, 2017, doi:10.1007/s00445-017-1174-0.
22. Coppola D., Di Muro A., Peltier A., Villeneuve N., Ferrazzini V., Favalli M., Bachèlery P., Gurioli L., Harris A., Moune S., Vlastélic I., Galle B., **Arellano S.**, Aiuppa A., Shallow system rejuvenation and magma discharge trends at Piton de la Fournaise volcano (La Réunion Island), *Earth Planet. Sc. Lett.*, 463, 1 April 2017, 13-24, doi:10.1016/j.epsl.2017.01.024.
23. Lübcke P., Lampel J., **Arellano S.**, Bobrowski N., Dinger F., Galle B., Garzón G., Hidalgo S., Chacón Ortiz Z., Vogel L., Warnach S., Platt U., Retrieval of absolute SO₂ column amounts from scattered-light spectra: implications for the evaluation of data from automated DOAS networks, *Atmos. Meas. Techn.*, 9, 5677-5698, doi:10.5194/amt-9-5677-2016, 2016.
24. Vignelles D., Roberts T.J., Carboni E., Ilyinskaya E., Pfeffer M., Dagsson Waldhauserova P., Schmidt A., Berthet G., Jegou F., Renard J.-B., Ólafsson H., Bergsson B., Yeo R., Fannar Reynisson N., Grainger R.G., Galle B., Conde V., **Arellano S.**, Lurton T., Coute B., Duverger V., Balloon-borne measurement of the aerosol size distribution from an Icelandic flood basalt

eruption, *Earth Planet. Sc. Lett.*, Volume 453, 1 November 2016, Pages 252-259, ISSN 0012-821X, <http://dx.doi.org/10.1016/j.epsl.2016.08.027>.

25. Bobrowski N., Giuffrida G. B., Tedesco D., Yalire M., **Arellano S.**, Balagizi C., Calabrese S., Liotta M., Lübcke P., Galle B., Multi-component gas emission measurements of the active lava lake of Nyiragongo, DR Congo, *J. African Earth Sc.*, Available online 26 July 2016, ISSN 1464-343X, doi:10.1016/j.jafrearsci.2016.07.010.
26. Dingwell A., Rutgersson A., Claremar B., **Arellano S.**, Yalire M., Galle B., Seasonal and diurnal patterns in the dispersion of SO₂ from Mt. Nyiragongo, *Atmos. Environ.*, 132, 19-29, doi:10.1016/j.atmosenv.2016.02.030., 2016.
27. Gíslason S.R., Stefánsdóttir G., Pfeffer M.A., Barsotti S., Jóhannsson Th., Galeczka I., Bali E., Sigmarsson O., Stefánsson A., Keller N.S., Sigurdsson Á., Bergsson B., Galle B., Conde V., **Arellano S.**, Aiuppa A., Jónasdóttir E. B., Eiríksdóttir E.S., Jakobsson S., Guðfinnsson G.H., Halldórsson S.A., Gunnarsson H., Haddadi B., Jónsdóttir I., Thordarson Th., Riihuus M., Högnadóttir Th., Dürig T., Pedersen G.B.M., Höskuldsson Á., Gudmundsson M.T., Environmental pressure from the 2014–15 eruption of Bárðarbunga volcano, Iceland, *Geochem. Persp. Lett.* v1, n1, doi: 10.7185/geochemlet.1509, 2015.
28. Bobrowski N., von Glasow R., Giuffrida G., Tedesco D., Aiuppa A., Yalire M., **Arellano S.**, Johansson M., Galle B., Gas emission strength and BrO/SO₂ evolution in the plume of Nyiragongo in comparison to Mt Etna, *J. Geophys. Res.*, 120-1, 277-291, doi:10.1002/2013JD021069, 2015.
29. Hidalgo S., Battaglia J., **Arellano S.**, Steele A., Vásconez F., Bourquin J., Arráis S., Galle B., SO₂ degassing at Tungurahua volcano (Ecuador) between 2007 and 2013: transition from continuous to episodic activity, *J. Volcanol. Geotherm. Res.*, 298, 1-14, doi:10.1016/j.jvolgeores.2015.03.022, 2015.
30. Lübcke P., Bobrowski N., **Arellano S.**, Galle B., Garzón G., Vogel L., Platt U., BrO/SO₂ molar ratios from scanning DOAS measurements in the NOVAC network. *Solid Earth*, 5, 409–424, doi:10.5194/se-5-409-2014, 2014.
31. Smets B., Karume K., Kavotha D., Kervyn F., Lukaya F., d'Oreye N., Tedesco D., Wauthier C., **Arellano S.**, Carn S., Darrah T., Fernández J., Galle B., Kervyn M., GVO team, Detailed multidisciplinary monitoring reveals pre- and co-eruptive signals at Nyamulagira volcano (North Kivu, D.R.C.), *Bull. Volcanol.*, 76:787, doi:10.1007/s00445-013-0787-1, 2014.
32. Vogel L., Galle B., Kern C., Delgado-Granados H., Conde V., Norman P., **Arellano S.**, Landgren O., Lübcke P., Alvarez-Nieves J., Cárdenas-González L., Platt U., Early in-flight detection of SO₂ via Differential Optical Absorption Spectroscopy: a feasible aviation safety measure to prevent potential encounters with volcanic plumes, *Atmos. Meas. Tech.*, 4, 1785-1804, doi: 10.5194/amt-4-1785-2011, 2011.
33. Galle B., Johansson M., Rivera C., Zhang Y., Kihlman M., Kern C., Lehmann T., Platt U., **Arellano S.**, Hidalgo S., Network for Observation of Volcanic and Atmospheric Change (NOVAC)-A global network for volcanic gas monitoring: Network layout and instrument description, *J. Geophys. Res.*, 115, D05304, doi:10.1029/2009JD011823, 2010.
34. Carn S., Krueger A., Krotkov N., **Arellano S.**, Yang K., Daily monitoring of Ecuadorian volcanic degassing from space, *J. Volcanol. Geotherm. Res.*, Vol. 176, Issue 1, 141-150, doi:10.1016/j.jvolgeores.2008.01.029, 2008.
35. **Arellano S.**, Hall M., Samaniego P., Ruiz A., Molina I., Palacios P., Yepes H., Degassing patterns of Tungurahua volcano (Ecuador) during the 1999-2006 eruptive period, inferred from remote spectroscopic measurements of SO₂ emissions, *J. Volcanol. Geotherm. Res.*, Vol. 176, Issue 1, 151-162, doi:10.1016/j.jvolgeores.2008.07.007, 2008.
36. **Arellano S.**, Hall M., Ayala E., Spectroscopic remote sensing of volcanic gases: the Ecuadorian case, *Óptica Pura y Aplicada Vol. 39, núm. 1, 3rd Workshop LIDAR Measurements in Latin America special issue*, 99-108, 2006.

Conference abstracts, seminars and reports

A total of ~170 presented or published since 2004.

Data-sets

Lead contributor of re-analysis data-sets of volcanic gas emission from 32 volcanoes of the Network for Observation of Volcanic and Atmospheric Change (NOVAC), to be accessible at <https://novac.chalmers.se/>

References

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